

REMARKS

Claims 1 and 2 were in the application as originally filed. Claims 3 through 37 were previously added. New claims 39-41 were added herein. Claim 2 has been deleted. Claims 12 and 31 were previously amended to correct an alleged enablement matter. Claims 4, 18, 19, 26, 37 and 28 have been corrected. It is believed that the present limitations distinguish the invention over the cited art and comply with the patent laws.

REJECTIONS UNDER 35 USC 102(a) or 103(a)

Claims 1 and 3-6, 13, 16-18 were rejected as anticipated or obvious over US 7,052,848. The '848 patent claims the following:

"A printable composition, comprising: a) a liquid carrier; b) a plurality of nanostructures having an aspect ratio of at least about 5:1 within the liquid carrier; and c) a stabilizing agent configured to inhibit agglomeration of the plurality of nanostructures, said stabilizing agent being a nanostructure surface attached ligand, nanostructure polymeric coating, metal coating, semimetal oxide coating, or metal oxide coating."

The Examiner asserts that '848 discloses a method of producing conductive paths on a substrate and provides nonoparticles as coated with polyvinylpyrrolidone. The Examiner asserts that by providing the coating the composition obviously comprises polyvinylpyrrolidone dispersed in a dispersion vehicle of solvent or mixture with water as in applicant's claims. He further claims that the size of nano-particles is the same as those of Claim 13. Regarding Claims 5, 6, 16 the nanoparticles can be silver, copper, gold and cobalt. Further, regarding Claims 17 and 18, the line with can be the same or overlapping that of the reference.

Claim 1, as now amended, recites "and wherein the functional material is spherical". Claims 3-6, 13 and 16-18 are all dependent upon Claim 1. Pan et al does not describe the embodiment of Claim 1, as now amended. Furthermore,

Pan et al actually teaches away from Claim 1 as amended, specifically, at least at column 11, lines 2-5; and column 12, lines 5-9. Accordingly, applicants submit that claims 1, 3-6, 13, and 16-18, as amended herein, are novel and non-obvious over Pan et al.

REJECTIONS UNDER 35 USC 102(b) or 103(a)

Claims 1 and 13-19 are rejected as anticipated or obvious over Kudas et al. 2003/0148024. Kudas is cited as disclosing a method of making conductive electronic features. Further he mentions that providing nonparticles coated with polyvinyl pyrrolidone, the composition comprises that material dispersed in a dispersion vehicle of solvent. The examiner asserts that Kudas uses material of the same viscosity as in applicant's claim 3 and the same metals as in Claim 5,6,16 and also uses surfactants that are similar to applicant's claims 7 and 9. The examiner also rejects Claims 8, 10-12, 13-15, 17,18,19, 20-38 as having similar features to Kudas.

Claims 1 and 20, as now amended, recite "and wherein the functional material is coated with a fatty acid". Further, claims 1 and 20 recite: "wherein the polyvinylpyrrolidone is an organic polymer for dispersing the functional materials". Kudas et al describes nanoparticles coated with polyvinylpyrrolidone, or other compositions. Kudas et al does not describe functional materials coated with a fatty acid.

Furthermore, Kudas et al does not describe a composition comprising an organic polymer comprising polyvinylpyrrolidone, wherein the polyvinylpyrrolidone is an organic polymer for dispersing the functional materials. In addition, claims 1 and 20 require a firing step. Kudas et al does not describe firing of the composition, because the temperatures used by Kudas (see paragraph 0244) are not firing conditions, as would be recognized by one of skill in the art.

Claims 1, 3-6, 10-12 and 16 are rejected under 35 USC 103 as unpatentable over Bishop 5,744,245 in view of Kudas 3003/0148024.

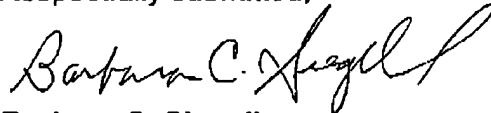
Kodas is cited as teaching metal precursors for forming conductive features.

Applicant respectfully disagrees that Claims 1, 3-6, 10-12, and 16 are obvious over Bishop 5,744,245 in view of Kodas et al 2003/0148024. As noted above, the claims differ from those of Kodas. Bishop does not avoid the deficiencies of Kodas. Thus, applicant argues that the claims are not obvious over Bishop and Kodas.

In view of the amendments made above and the discussion above, allowance of claims 1 and 3-41 is respectfully requested.

If anything else is needed to advance prosecution of this application, the Examiner is requested to contact applicant's attorney at the telephone number below.

Respectfully submitted,



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